

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-29. (Canceled)

30. (Currently Amended) A method of internally monitoring a subject and providing, if appropriate, cardiac electrical therapy to the subject, the method comprising:

implanting within the subject a cardiac defibrillator comprising a pulse generator, processing circuitry, and electrodes that are positioned to sense cardiac electrical waveforms and to provide, if needed, cardiac therapy in a form of electrical defibrillation stimulation;

implanting within the subject a pressure sensing device comprising a pressure transmission catheter and a transducer in communication with the pressure transmission catheter, the pressure sensing device being implanted so that a distal sensing tip of the pressure transmission catheter is positioned within an artery accessible in a subcutaneous pectoral region of the chest, but the transducer of the pressure sensing device remains outside of the artery;

receiving, within the implanted cardiac defibrillator, cardiac electrical activity waveform information sensed by the electrodes and pressure waveform information for the artery sensed by the implanted pressure sensor; and

providing the cardiac therapy in the form of electrical defibrillation stimulation if the processing circuitry of the implanted cardiac therapeutic device determines that an evaluation of both the cardiac electrical activity waveform information and the pressure waveform information shows there is occurring an aberrant rhythm for which therapy is appropriate.

31. (Previously presented) The method of claim 30, wherein at least one of the electrodes is positioned within the heart of the subject, and the sensed electrical activity waveform information is an electrogram signal.

32. (Previously presented) The method of claim 30, wherein at least one of the electrodes is positioned subcutaneously within the subject, and the sensed electrical activity waveform information is a subcutaneous electrocardiogram signal.

33. (Previously presented) The method of claim 30, wherein the pressure sensing device comprises a lead that has on a first end the pressure transmission catheter and on a second end a connector that is connectable to a housing of the cardiac defibrillator, so that a wired connection between the transducer and the processing circuitry is formed.

34. (Previously presented) The method of claim 30, wherein the pressure transmission catheter comprises a lumen extending from the distal tip of the pressure transmission catheter to the transducer.

35. (Previously presented) The method of claim 34, wherein the lumen is filled with a pressure transmitting substance providing fluid communication between the distal tip and the transducer.

36. (Previously presented) The method of claim 35, wherein the distal tip of the pressure transmission catheter comprises a barrier that retains the substance but that allows external pressure forces to be transmitted through the lumen for detection by the transducer.

37. (Previously presented) The method of claim 30, wherein the pressure transmission catheter is an elongate structure that has a diameter that is transverse to a longitudinal axis of the pressure transmission catheter of approximately 0.5 mm to 1.5 mm.

38. (Currently Amended) The method of claim 30, wherein the artery accessible in a subcutaneous pectoral region is a distal tip of the pressure transmission catheter is positioned within the subclavian artery.

39. (Previously presented) The method of claim 30, wherein the determination by the processing circuitry of whether or not to provide the cardiac therapy comprises the use of a likelihood function for both the cardiac electrical activity waveform information and the pressure waveform information to indicate a likelihood that an aberrant rhythm requiring a stimulus is occurring in the heart.

40. (Previously presented) The method of claim 39, wherein:

wherein at least one of the electrodes is positioned subcutaneously within the subject, and the sensed electrical activity waveform information is a subcutaneous electrocardiogram (ECG) signal; and

if the ECG signal was noisy and thus difficult to interpret, the likelihood function for the cardiac electrical activity waveform information would present a low likelihood that an aberrant rhythm requiring a stimulus is occurring in the heart.

41. (Previously presented) The method of claim 30, wherein a presence of an aberrant rhythm from the sensed pressure waveform information is determined from a baseline measurement of pressure and a fall in pressure from the baseline of more than a pre-specified value.

42. (Currently Amended) A system for internally monitoring a subject and providing, if appropriate, cardiac electrical therapy to the subject, the method comprising:

an implantable cardiac defibrillator comprising a pulse generator, processing circuitry, and electrodes that are positionable to sense cardiac electrical waveforms and to provide, if needed, cardiac therapy in a form of electrical defibrillation stimulation; and

an implantable pressure sensing device comprising a pressure transmission catheter and a transducer in communication with the pressure transmission catheter, the pressure sensing device being implantable so that a distal sensing tip of the pressure transmission catheter is positionable within an artery accessible in a subcutaneous pectoral region of the chest, but the transducer of the pressure sensing device remains outside of the artery;

wherein the implantable cardiac defibrillator is programmed to receive cardiac electrical activity waveform information sensed by the electrodes and pressure waveform information for the artery sensed by the implantable pressure sensor, and is further programmed to direct that cardiac therapy be provided in the form of electrical defibrillation stimulation if the processing circuitry determines that an evaluation of both the cardiac electrical activity waveform information and the pressure waveform information shows there is occurring an aberrant rhythm for which therapy is appropriate.

43. (Previously presented) The system of claim 42, wherein:

the cardiac defibrillator comprises at least one endocardial lead having a distal electrode positionable within the heart of the subject; and

the processing circuitry is programmed to analyze sensed electrical activity waveform information in a form of an electrogram signal that is sensed by the at least one endocardial lead electrode.

44. (Previously presented) The system of claim 42, wherein:

the cardiac defibrillator comprises at least one subcutaneous electrode positionable subcutaneously within the subject; and

the processing circuitry is programmed to analyze sensed electrical activity waveform information in the form of a subcutaneous electrocardiogram signal that is sensed by the at least one subcutaneous electrode.

45. (Previously presented) The system of claim 42, wherein the pressure sensing device comprises a lead that has on a first end the pressure transmission catheter and on a second end a connector that is connectable to a housing of the cardiac defibrillator, so that a wired connection between the transducer and the processing circuitry is formable.

46. (Previously presented) The system of claim 42, wherein the pressure transmission catheter comprises a lumen extending from the distal tip of the pressure transmission catheter to the transducer.

47. (Previously presented) The system of claim 46, wherein the lumen is filled with a pressure transmitting substance providing fluid communication between the distal tip and the transducer.

48. (Previously presented) The system of claim 47, wherein the distal tip of the pressure transmission catheter comprises a barrier that retains the substance but that allows external pressure forces to be transmitted through the lumen for detection by the transducer.

49. (Previously presented) The system of claim 42, wherein the pressure transmission catheter is an elongate structure that has a diameter that is transverse to a longitudinal axis of the pressure transmission catheter of approximately 0.5 mm to 1.5 mm.

50. (Previously presented) The system of claim 42, wherein the processing circuitry is programmed to determine whether or not to provide the cardiac therapy using a likelihood function for both the cardiac electrical activity waveform information and the pressure waveform information to indicate a likelihood that an aberrant rhythm requiring a stimulus is occurring in the heart.

51. (Previously presented) The system of claim 50, wherein:

- at least one of the electrodes is a subcutaneous electrode positionable in a subcutaneous region of the subject;
- the processing circuitry is programmed to interpret sensed electrical activity waveform information in a form of a subcutaneous electrocardiogram (ECG) signal; and
- the processing circuitry is further programmed such that if the ECG signal was noisy and difficult to interpret, the likelihood function for the cardiac electrical activity waveform information would present a low likelihood that an aberrant rhythm requiring a stimulus is occurring in the heart.

52. (Previously presented) The system of claim 42, wherein the processing circuitry is programmed such that a presence of an aberrant rhythm from the sensed pressure waveform information is determined from a baseline measurement of pressure and a fall in pressure from the baseline of more than a pre-specified value.